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10/752,420	01/05/2004	Gregory Gordon Rose	030010	3858

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EXAMINER
ZECHER, CORDELIA P K

ART UNIT	PAPER NUMBER
2432	

NOTIFICATION DATE	DELIVERY MODE
12/14/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com

		Application No.	Applicant(s)
Office Action Summary		10/752,420	ROSE ET AL.
		Examiner	**Art Unit**	
		Cordelia Zecher	2432	
-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --				

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>19 November 2010</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-3,5-24,26-28,50,51 and 53-68</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-3,5-24,26-28,50,51 and 53-68</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage

        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

U.S. Patent and Trademark Office

DETAILED ACTION

Response to Arguments

1.　　Applicant's arguments, see Remarks, filed November 1, 2010, with respect to 112 have been fully considered and are persuasive. The rejection of claims 14 – 21 and 61 – 64 under 112 second paragraph has been withdrawn.

2.　　Applicant's arguments, with respect to 101 have been fully considered and are persuasive. The rejection of claims 22 – 24, 26 – 28 and 65 – 68 under 101 has been withdrawn.

3.　　Applicant's arguments with respect to the Arthan reference have been fully considered but they are not persuasive. Applicant argues that Arthan fails to teach that the private key is output from the central system while another key is retained and used by the central system. However, Arthan teaches both a current key and spare key are generated and that the spare key is held securely until it is called up as required (column 4, lines 20-31). Therefore it would have been obvious that the current key is retained and used by the system, while the spare key is held securely remotely until it is called up.

4.　　Applicant argues that Arthan fails to teach creating a second private key associated with the first private key. Applicant argues that being pre-generated does not suggest that the second private key is associated with the first private key. However, Arthan states that the public and private keys are generated in pairs and that when the current key is compromised the spare key is used (column 4, lines 20-30). The keys being generated in pairs suggests that they are associated, and since the spare key is

used once the current key is compromised shows that the keys are associated since

one is used to replace the other.

5.   Applicant argues that Arthan fails to teach that the second private key can be

used when there is no access to the first private key. However, Arthan teaches that the

spare private key is used when the current private key is compromised (column 4, lines

15-22). To one of ordinary skill in the art, it would have been obvious that a compromise

would include having the private key stolen. Therefore, Arthan teaches that the spare

key is used when there is no access to the first private key.

6.   Applicant's arguments with respect to the second private key not being stored on

the mobile user device have been considered but are moot in view of the new ground(s)

of rejection.

Claim Rejections - 35 USC § 103

1.   Claims 50, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Arthan et al's US Patent 6,782,103 B1, and in view of Kurn et al's US Publication

2002/0071561 A1.

2.   Referring to claim 50, Arthan teaches:

         a.   A processor configured to generate a first private key and corresponding

                  first public key, generate a second private key associated with the first private

                  key and to create a second public key corresponding to the second private key

                  (column 4, lines 25-30).

       b.   A storage medium coupled to the processor to store the first private key (column 2, lines 48-50).

       c.   A transmitter to output the second private key such that it can be used when there is no access to the first private key wherein the first private key is disabled when the second private key is recreated and used for authentication (column 4, lines 25-32).

       d.   Output the first public key and the second public key to a verifier device (column 4, lines 18-20).

       e.   Wherein the processor uses the first private key for authentication of the device (column 4, lines 12-14).

3.   Arthan fails to teach transmitting a plurality of shares of the private key to a plurality of different entities such that it can be recreated while the private key is not stored on the device. However, Kurn teaches that the protection key is split among multiple individuals (paragraph 89) and that after the key is encoded, the protection key is erased from the computer memory (paragraph 102). Arthan and Kurn are analogous art because they are from the same field of endeavor, cryptography. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Arthan and Kurn before him or her, to modify the system of Arthan to include the key split of Kurn. The suggestion/motivation for doing so would have been so that no one individual can produce the key (paragraph 27).

4.   Referring to claim 56, Arthan teaches the second private key is removed from the user device upon transmission of the second private key (column 4, lines 30-32).

5.   Arthan fails to teach transmitting a plurality of shares of the private key to a

plurality of different entities such that it can be recreated while the private key is not

stored on the device. However, Kurn teaches that the protection key is split among

multiple individuals (paragraph 89) and that after the key is encoded, the protection key

is erased from the computer memory (paragraph 102). Arthan and Kurn are analogous

art because they are from the same field of endeavor, cryptography. At the time of the

invention, it would have been obvious to one of ordinary skill in the art, having the

teachings of Arthan and Kurn before him or her, to modify the system of Arthan to

include the key split of Kurn. The suggestion/motivation for doing so would have been

so that no one individual can produce the key (paragraph 27).

6.   Claims 1 – 3, 5 – 9, 11 – 14, 16 – 24, 26 – 28, 51, and 53 – 55 are rejected under

35 U.S.C. 103(a) as being unpatentable over Arthan et al's US Patent 6,782,103 B1,

and in view of Kurn et al's US Publication 2002/0071561 A1 and further in view of

Hansmann et al's US Publication 2002/0018570 A1.

7.   Referring to claims 1, 14 and 22, Arthan teaches:

        f.   Creating a first private key and corresponding public key (column 4, lines

        25-30).

        g.   Creating a second private key associated with the first private key and

        creating a second public key corresponding to the second private key (column 4,

        lines 25-30).

h.   Outputting the second private key while retaining the first private key

(column 4, lines 30-32) such that the first private key is inaccessible (column 5,

lines 30-35).

i.   Transmitting the first public key and the second public key to a verifier

device (column 4, lines 18-20).

j.   Using the first private key for authentication (column 4, lines 15-16).

8.   Arthan fails to teach transmitting a plurality of shares of the private key to a

plurality of different entities such that it can be recreated while the private key is not

stored on the device. However, Kurn teaches that the protection key is split among

multiple individuals (paragraph 89) and that after the key is encoded, the protection key

is erased from the computer memory (paragraph 102). Arthan and Kurn are analogous

art because they are from the same field of endeavor, cryptography. At the time of the

invention, it would have been obvious to one of ordinary skill in the art, having the

teachings of Arthan and Kurn before him or her, to modify the system of Arthan to

include the key split of Kurn. The suggestion/motivation for doing so would have been

so that no one individual can produce the key (paragraph 27).

9.   Arthan in view of Kurn fails to teach a mobile user device. However, Hansmann

teaches authenticating devices, the devices including mobile phones (paragraphs 27-

28). Arthan in view of Kurn and Hansmann are analogous art because they are from the

same field of endeavor, cryptography. At the time of the invention, it would have been

obvious to one of ordinary skill in the art, having the teachings of Arthan in view of Kurn

and Hansmann before him or her, to modify the system of Arthan in view of Kurn to

include the mobile phone of Hansmann. The suggestion/motivation for doing so would have been mobile phones are well known devices used for communication.

10.   Referring to claims 2 and 23, Kurn teaches:

k.   Creating at least two shares of the private key at the device (paragraph 89).

l.   Outputting each share to a different entity (paragraph 89).

11.   Arthan and Kurn are analogous art because they are from the same field of endeavor, cryptography. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Arthan and Kurn before him or her, to modify the system of Arthan to include the key split of Kurn. The suggestion/motivation for doing so would have been so that no one individual can produce the key (paragraph 27).

12.   Referring to claims 3, 16, and 24, Arthan teaches using the second private key independent of the first private key for authentication (column 4, lines 20-23). Kurn teaches re-creating the private key using at least some shares of the plurality of shares (paragraphs 27 and 103). Arthan and Kurn are analogous art because they are from the same field of endeavor, cryptography. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Arthan and Kurn before him or her, to modify the system of Arthan to include the key split of Kurn. The suggestion/motivation for doing so would have been so that no one individual can produce the key (paragraph 27).

13.   Referring to claims 5 and 17, Arthan teaches:

     m.   Creating a third private key associated with the second private key, and creating a third public key corresponding to the third private key (column 5, lines 12-14).

     n.   Outputting the third public key to the verifier (column 5, lines 12-14).

14.   Referring to claim 6, Arthan teaches:

     o.   Outputting the third private key (column 4, lines 30-32).

     p.   Using the third private key for authentication (column 4, lines 20-23).

15.   Kurn teaches:

     q.   Outputting the key as a plurality of shares such that it can be recreated (paragraph 89).

     r.   Recreating the private key using at least some of the plurality of shares (paragraph 27).

16.   Arthan and Kurn are analogous art because they are from the same field of endeavor, cryptography. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Arthan and Kurn before him or her, to modify the system of Arthan to include the key split of Kurn. The suggestion/motivation for doing so would have been so that no one individual can produce the key (paragraph 27).

17.   Referring to claim 7, Arthan teaches that the second private and public keys are created independently from the first private and public keys (column 4, lines 25-26).

18.   Referring to claims 8 and 18, Arthan teaches:

s.   Creating a third private key associated with the second key and creating a

third public key corresponding to the third private key (column 5, lines 12-14).

t.   Creating a fourth private key associated with the third private key and

creating a fourth public key corresponding to the fourth private key (column 4,

lines 25-30).

u.   Outputting the third and fourth public keys (column 4, lines 18-20).

19.   Arthan fails to teach transmitting a plurality of shares of the private key to a

plurality of different entities such that it can be recreated. However, Kurn teaches that

the protection key is split among multiple individuals (paragraph 89). Arthan and Kurn

are analogous art because they are from the same field of endeavor, cryptography. At

the time of the invention, it would have been obvious to one of ordinary skill in the art,

having the teachings of Arthan and Kurn before him or her, to modify the system of

Arthan to include the key split of Kurn. The suggestion/motivation for doing so would

have been so that no one individual can produce the key (paragraph 27).

20.   Referring to claim 9, Arthan teaches:

v.   Disabling use of the second private key for authentication (column 4, lines

20-23).

w.   Using the third private key for authentication (column 4, lines 20-23).

x.   Accessing the fourth private key (column 4, lines 20-23).

y.   Using the fourth private key for authentication (column 4, lines 20-23).

21.   Arthan fails to teach recreating the fourth private key. However, Kurn teaches

using the shares to recreate the key (paragraph 27). Arthan and Kurn are analogous art

because they are from the same field of endeavor, cryptography. At the time of the

invention, it would have been obvious to one of ordinary skill in the art, having the

teachings of Arthan and Kurn before him or her, to modify the system of Arthan to

include the key split of Kurn. The suggestion/motivation for doing so would have been

so that no one individual can produce the key (paragraph 27).

22.   Referring to claims 11, 19, and 26, Arthan discloses:

      z.   Receiving a first public key (column 4, lines 18-20).

      aa.   Receiving a second public key, the second public key associated with the

first public key (column 4, lines 18-20), wherein the second public key has a

corresponding second private key that can be used when there is no access to a

first private key corresponding to the first public key wherein the first private key

is disabled when the second private key is recreated and used for authentication

(column 4, lines 25-32).

      bb.   Using the first public key for authentication (column 5, lines 12-14).

      cc.   Using the second public key for authentication if the first public key fails

(column 5, lines 12-14).

23.   Arthan fails to teach transmitting a plurality of shares of the private key to a

plurality of different entities such that it can be recreated while the private key is not

stored on the device. However, Kurn teaches that the protection key is split among

multiple individuals (paragraph 89) and that after the key is encoded, the protection key

is erased from the computer memory (paragraph 102). Arthan and Kurn are analogous

art because they are from the same field of endeavor, cryptography. At the time of the

invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Arthan and Kurn before him or her, to modify the system of Arthan to include the key split of Kurn. The suggestion/motivation for doing so would have been so that no one individual can produce the key (paragraph 27).

24.   Arthan in view of Kurn fails to teach a mobile user device. However, Hansmann teaches authenticating devices, the devices including mobile phones (paragraphs 27-28). Arthan in view of Kurn and Hansmann are analogous art because they are from the same field of endeavor, cryptography. At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Arthan in view of Kurn and Hansmann before him or her, to modify the system of Arthan in view of Kurn to include the mobile phone of Hansmann. The suggestion/motivation for doing so would have been mobile phones are well known devices used for communication.

25.   Referring to claims 12, 20 and 27, Arthan teaches receiving a third public key from the device, the third public key associated with the second public key (column 5, lines 12-14), if the first public key fails and the second key results in successful authentication (column 4, lines 20-23).

26.   Referring to claims 13, 21, and 28, Arthan teaches a third public key and a fourth public key from the device (column 5, lines 12-14), if the first public key fails and if the second public key results in a successful authentication, wherein the third and fourth public keys are associated with the second key (column 4, lines 20-26).

27.   Referring to claim 51, Arthan teaches:

dd.   A receiver configured to receive a first public key from a device and

receiving a second public key from the device, the second public key associated

with the first public key, wherein the second public key has a corresponding

second private key that can be used when there is no access to a first private key

corresponding to a first public key, wherein the first private key is disabled when

the second private key is recreated and used for authentication (column 4, lines

15-30).

ee.   A storage medium coupled to the receiver configured to store the first and

second public keys (column 4, lines 18-20).

ff.   A processor coupled to the receiver and the storage medium, the

processor configured to use the first public key for authentication, the processor

configured to use the second public key for authentication if the first public key

fails (column 4, lines 18-20).

28.   Arthan fails to teach transmitting a plurality of shares of the private key to a

plurality of different entities such that it can be recreated while the private key is not

stored on the device. However, Kurn teaches that the protection key is split among

multiple individuals (paragraph 89) and that after the key is encoded, the protection key

is erased from the computer memory (paragraph 102). Arthan and Kurn are analogous

art because they are from the same field of endeavor, cryptography. At the time of the

invention, it would have been obvious to one of ordinary skill in the art, having the

teachings of Arthan and Kurn before him or her, to modify the system of Arthan to

include the key split of Kurn. The suggestion/motivation for doing so would have been

so that no one individual can produce the key (paragraph 27).

29.   Arthan in view of Kurn fails to teach a mobile user device. However, Hansmann

teaches authenticating devices, the devices including mobile phones (paragraphs 27-

28). Arthan in view of Kurn and Hansmann are analogous art because they are from the

same field of endeavor, cryptography. At the time of the invention, it would have been

obvious to one of ordinary skill in the art, having the teachings of Arthan in view of Kurn

and Hansmann before him or her, to modify the system of Arthan in view of Kurn to

include the mobile phone of Hansmann. The suggestion/motivation for doing so would

have been mobile phones are well known devices used for communication.

30.   Referring to claims 53 – 55, Arthan teaches the second private key is removed

from the user device upon transmission of the second private key (column 4, lines 30-

32).

31.   Arthan fails to teach transmitting a plurality of shares of the private key to a

plurality of different entities such that it can be recreated while the private key is not

stored on the device. However, Kurn teaches that the protection key is split among

multiple individuals (paragraph 89) and that after the key is encoded, the protection key

is erased from the computer memory (paragraph 102). Arthan and Kurn are analogous

art because they are from the same field of endeavor, cryptography. At the time of the

invention, it would have been obvious to one of ordinary skill in the art, having the

teachings of Arthan and Kurn before him or her, to modify the system of Arthan to

include the key split of Kurn. The suggestion/motivation for doing so would have been

so that no one individual can produce the key (paragraph 27).

32.   Claims 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Arthan in view of Kurn in view of Hansmann as applied above, and further in view

of Official Notice. Referring to claim 10, Arthan in view of Kurn in view of Hansmann

discloses all the limitations of the parent claim. Arthan in view of Kurn in view of

Hansmann does not explicitly disclose preventing retransmission of the second private

key. However, Arthan teaches that the key is encrypted and stored securely (column 5,

lines 26-28) and that it should be held securely after generation (column 4, lines 30-31).

The examiner takes official notice that it would have been obvious, to one of ordinary

skill in the art at the time of invention, to prevent retransmission of the key since keeping

the key stored securely is important and that retransmission would expose the key to

more vulnerabilities.

33.   Referring to claim 15, Kurn teaches:

        gg.   Creating at least two shares of the second private key at the device

        (paragraph 89).

        hh.   Outputting each share to a different entity (paragraph 89).

34.   Arthan and Kurn are analogous art because they are from the same field of

endeavor, cryptography. At the time of the invention, it would have been obvious to one

of ordinary skill in the art, having the teachings of Arthan and Kurn before him or her, to

modify the system of Arthan to include the key split of Kurn. The suggestion/motivation

for doing so would have been so that no one individual can produce the key (paragraph 27).

35.   Arthan in view of Sudia does not explicitly disclose subsequent outputting of the key is prevented. However, Arthan teaches that the key is encrypted and stored securely (column 5, lines 26-28) and that it should be held securely after generation (column 4, lines 30-31). The examiner takes official notice that it would have been obvious, to one of ordinary skill in the art at the time of invention, to prevent retransmission of the key since keeping the key stored securely is important and that retransmission would expose the key to more vulnerabilities.

36.   Claims 57 – 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arthan et al's US Patent 6,782,103 B1, and further in view of Sudia US Patent 6,009,177.

37.   Referring to claims 57, 61 and 65, Arthan teaches:

     ii.   Retrieving a second private key at a mobile user device that has no access to a first private key associated with the second private key (column 5, lines 12-14).

     jj.   Creating a third private key and a corresponding third public key (column 5, lines 12-14).

     kk.   Using the second private key for authentication (column 4, lines 20-23).

38.   Sudia teaches re-creating the private key using at least some shares of the plurality of shares (column 31, lines 45-55). At the time of the invention, it would have

been obvious to one of ordinary skill in the art, having the teachings of Arthan and Sudia before him or her, to modify the system of Arthan to include the private key distribution of Sudia. The suggestion/motivation for doing so would have been that it is desirable to have the key split among multiple key escrow agents to enhance user and public trust in the system (column 20, lines 66-column 21, line 4).

39.   Referring to claim 58, 62 and 66, Sudia teaches recreating the second private key at a mobile user device different from a mobile user device that created the first private key and second private key (column 7, lines 8-11). At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Arthan and Sudia before him or her, to modify the system of Arthan to include the private key distribution of Sudia. The suggestion/motivation for doing so would have been that it is desirable to have the key split among multiple key escrow agents to enhance user and public trust in the system (column 20, lines 66-column 21, line 4).

40.   Referring to claims 59, 63, and 67, Arthan teaches:

    ll.   Outputting the third private key while retaining the second private key (column 4, lines 30-32).

    mm.   Transmitting the third public key to the verifier device (column 4, lines 18-20).

41.   Sudia teaches outputting the key as a plurality of shares such that it can be recreated (column 18, lines 12-14). The suggestion/motivation for doing so would have been that it is desirable to have the key split among multiple key escrow agents to enhance user and public trust in the system (column 20, lines 66-column 21, line 4).

42.   Referring to claims 60, 64, and 68, Arthan teaches:

    nn.   Creating a fourth private key and a corresponding fourth public key

    (column 4, lines 25-30).

    oo.   Outputting the fourth private key while retaining the third private key (4,

    lines 30-32).

    pp.   Outputting the third and fourth public keys (column 4, lines 18-20).

43.   Arthan fails to teach outputting the fourth private key as a plurality of shares such

that it can be recreated. However, Sudia teaches breaking the key into several key

splits, and escrowing the key with more than one escrow agent (column 18, lines 12-

14). The suggestion/motivation for doing so would have been that it is desirable to have

the key split among multiple key escrow agents to enhance user and public trust in the

system (column 20, lines 66-column 21, line 4).

Conclusion

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

    A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cordelia Zecher whose telephone number is (571)272-7771. The examiner can normally be reached on Monday - Thursday 8:00 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gilberto Barron can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. Z./
Examiner, Art Unit 2432

/Benjamin E Lanier/
Primary Examiner, Art Unit 2432